

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 12-28 are pending in this application, Claims 12, 13, and 18 having been currently amended. Support for amended Claims 12, 13, and 18 can be found, for example, in the original claims, drawings, and specification as originally filed.¹ No new matter has been added.

In the outstanding Office Action, Claims 12-28 were rejected under 35 U.S.C. § 101; Claims 12-20 and 22-28 were rejected under 35 U.S.C. § 103(a) as unpatentable over Ng (U.S. Patent No. 5,807,283) in view of Vock et al. (U.S. Patent No. 7,174,277, hereinafter “Vock”); and Claim 21 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ng in view of Vock and Stivorc et al. (U.S. Patent Publication No. 2005/0245839; hereinafter “Stivorc”).

Applicants acknowledge with appreciation the courtesy of Examiner Dougherty in granting an interview in this case with Applicants’ representative on May 26, 2010, during which time the issues in the outstanding Office Action were discussed as substantially summarized hereinafter and also on the Interview Summary sheet. During the interview, amendments to independent Claim 12 were discussed which address the 35 U.S.C. § 101 rejection. The Examiner indicated that if the proposed amendments which we discussed are made to Claim 12 in the filed response, that the §101 rejection would be overcome. In light of this indication, Applicants have amended Claim 12 in this response to include the amendments discussed during the interview. Also, the rejections under 35 U.S.C. § 103(a) were discussed, and the Examiner acknowledged that the current references would be overcome if Claim 12 was amended to clarify that the magnetic field signals also determine

¹ See page 5, lines 17-31 of the specification; and Figures 1 and 2.

the distance between the shoes. Proposed amendments were discussed which address this issue. Applicants have amended Claim 12 to include the amendments that the Examiner indicated would distinguish over the cited references.

In regard to the rejection of Claims 12-28 under 35 U.S.C. § 101, as noted above, Applicants have amended Claim 12 to include the proposed amendments (which were indicated as overcoming the rejection under 35 U.S.C. § 101) that were discussed with the Examiner during the interview. Accordingly, Applicants respectfully submit that the rejection under 35 U.S.C. § 101 has been overcome.

In response to the rejection of Claims 12-20 and 22-28 under 35 U.S.C. § 103(a) as unpatentable over Ng in view of Vock, Applicants respectfully submit that amended independent Claim 12 recites novel features clearly not taught or rendered obvious by the applied references.

Independent Claim 12 is directed to a stride monitoring device including, *inter alia*:

...a first shoe including at least one magnetic mass;

a second shoe including at least one magnetometer configured to measure a magnetic field produced by the magnetic mass in the first shoe and to output magnetic field signals based on the measured magnetic field produced by the magnetic mass in the first shoe, wherein said magnetic field signals can be processed to determine stride parameters and a distance between the shoes, and

said second shoe further includes at least one accelerometer configured to measure an acceleration and to output acceleration signals based on the measured acceleration, and the accelerometer is further configured to output acceleration signals which are analyzed by a processor to determine instants of impact of said second shoe, and wherein the instants of impact are taken into account for calibrating in time a dynamic measurement of the distance between the shoes.

As discussed during the interview, Applicants' invention uses a magnetometer and accelerometer which are both included in one shoe of a pair of shoes. The other shoe of the

pair of shoes includes a magnetic mass. The stride of a person is monitored by measuring a variation of a magnetic field which is generated between the magnetometer and the magnetic mass. A dynamic measurement of the magnetic field is made through the magnetometer, and the accelerometer is configured to provide a signal which makes it possible to calibrate in time the signal which is measured by the magnetometer, so that user can know the main parameters of his/her race or walk. In addition, the calibration makes it possible to determine the moments at which the signal from the magnetometer has to be processed, in particular at the time when a foot strikes the ground. So the calibration makes it possible to establish a direct correspondence between the measurement signal and the length of the stride.² As a result, several advantages are present, such as the stride length calculation is made easier and a good estimate for the velocity of a foot during a stride is obtained.

Turning now to the applied references, column 2, lines 35-45 of Ng describes a Hall effect sensor that makes a dynamic measurement of the distance between shoes. However as acknowledged during the interview, Ng does not disclose the use of an accelerometer. Further, in Ng there is no information about the uses/functions of the magnetometer and an accelerometer used in conjunction. In an attempt to cure the above-noted deficiencies of Ng, page 6 of the outstanding Office Action cites Vock. However, Applicants respectfully submit that Vock fails to teach or suggest that “the accelerometer is further configured to output acceleration signals which are analyzed by a processor to determine instants of impact of said second shoe, and wherein the instants of impact are taken into account for calibrating in time a dynamic measurement of the distance between the shoes,” as recited in Claim 12.

Vock describes a detector 482 including an accelerometer which is orientated along a predetermined axis for making a movement monitor device (MMD) which is contained in a

² See, for example, page 11, lines 3-5 of the specification.

shoe.³ Vock describes a Hall effect sensor at column 22, line 63, but this sensor is provided for detecting the rotation of an object or a 180° inversion of the object, and the sensor does not replace the detector 482. The Hall effect sensor in Vock also does not provide a measurement of the magnetic field produced by a magnet in a shoe as in the present invention.

In addition, in Vock's system, the signal provided by the accelerometer does not make it possible to calibrate in time the signal provided by the detector 482 in order to determine when the signal must be processed. Column 40, lines 27-45 of Vock describes that there is a calibration, but it is a calibration of the monitoring system 450, it is not a calibration in time of a dynamic measurement of the distance between shoes. In contrast, in Applicants' invention, the measurement of the distance between the shoes is obtained due to the joint use of the magnetometer and the accelerometer; the magnetometer which provides a dynamic signal of the magnetic field between the two shoes, *while the accelerometer provides a signal which makes it possible to calibrate in time the dynamic signal.*

Thus, Applicants respectfully submit that independent Claim 12 (and all claims depending thereon) patentably distinguishes over the cited references.

Accordingly, Applicants respectfully request that the rejection of Claims 12-20 and 22-28 under 35 U.S.C. § 103(a) as unpatentable over Ng in view of Vock be withdrawn.

In response to the rejection of Claim 21 under 35 U.S.C. § 103(a) as unpatentable over Ng in view of Vock and Stivoric, Applicants note that Claim 21 is dependent on Claim 12 and is thus believed to be patentable for at least the reasons discussed above. Further, Applicants respectfully submit that Stivoric fails to cure any of the above-noted deficiencies of Ng and Vock.

³ See Vock at column 40, lines 1-45.

Accordingly, Applicants respectfully request that the rejection of Claim 21 under 35 U.S.C. § 103(a) as unpatentable over Ng in view of Vock and Stivoric be withdrawn.

Consequently, in view of the present amendment, and in light of the above discussion, the pending claims as presented herewith are believed to be in condition for formal allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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